traxon

64PXL Board RGB

INSTALLATION GUIDE

V1.3

Cover:
64PXL Board RGB
8PXL Add-On Strip
16PXL Add-On Board

traxon

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For your own safety and that of the product, please read this installation guide carefully before beginning setup and installation.

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1. INTRODUCTION

1.1 General

64PXL Board RGB features 64 ultra bright RGB SMD LEDs on a 8 x 8matrix with a 31.25mm/1.23” pitch. Although the LEDs provide ultra brightness, high resolution videos and graphic replays can be created by combining multiple boards. The 64PXL Board is DMX compatible which allows daisy chaining with the Traxon TX Connect™ system. On-board SMART CHIP™ technology with the powerful feature of auto-addressing enables easy setup and installation.

Features:

- 64 Ultra Bright RGB SMD LEDs
- TX Connect™ System
- DMX512 / e:pix / DVI capable
- Auto-Addressing
- SMART CHIP™ Technology
- Indoor Applications

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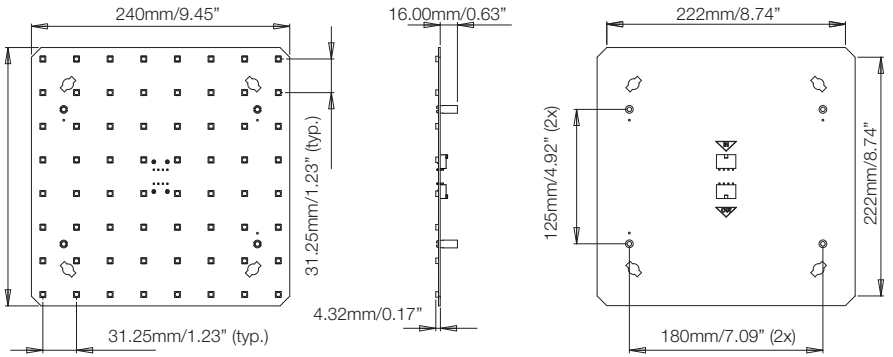
1.2 Dimensions

FIG.1: 64PXL Board RGB Dimensions



1.3 Packing Contents

FIG.2: Packing Contents

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2. INSTALLATION

2.1 Points To Consider

Plan your installation before mounting the String. The following should be considered for a successful installation.

- Installation distances and appropriate cable lengths. Please consult your local Traxon™ office or authorized agent for necessary aid.
- The number of 64PXL Board RGBs and appropriate LED Engines.
- Any DMX512 controllers to be used with the products.

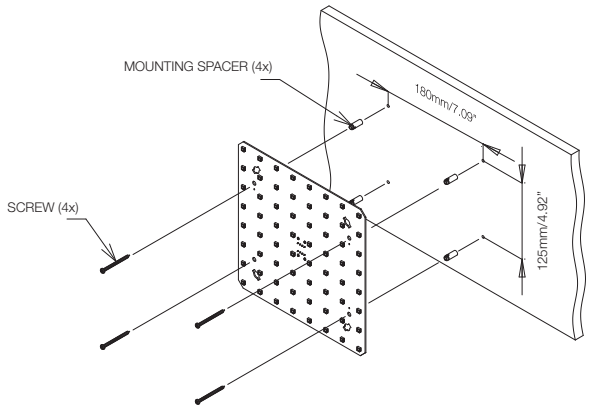
2.2 On-Site Installation

- ALWAYS keep the cables protected from sharp objects and ensure no damage is generated on the cables.
- Failure to keep the product within the operating temperature range of 0°C to 50°C (+32°F to +122°F) and storage temperature range of –20°C to +70°C (–4°F to +158°F) will void the product's warranty.

2.2.1 Mounting

1. To mount the board, first fit the nylon spacers into the mounting holes from the rear of the board. Then use the screws to firmly fasten the board to a flat surface. Careful not to over-tighten the screws, see below diagram.

FIG.3: Board Mounting



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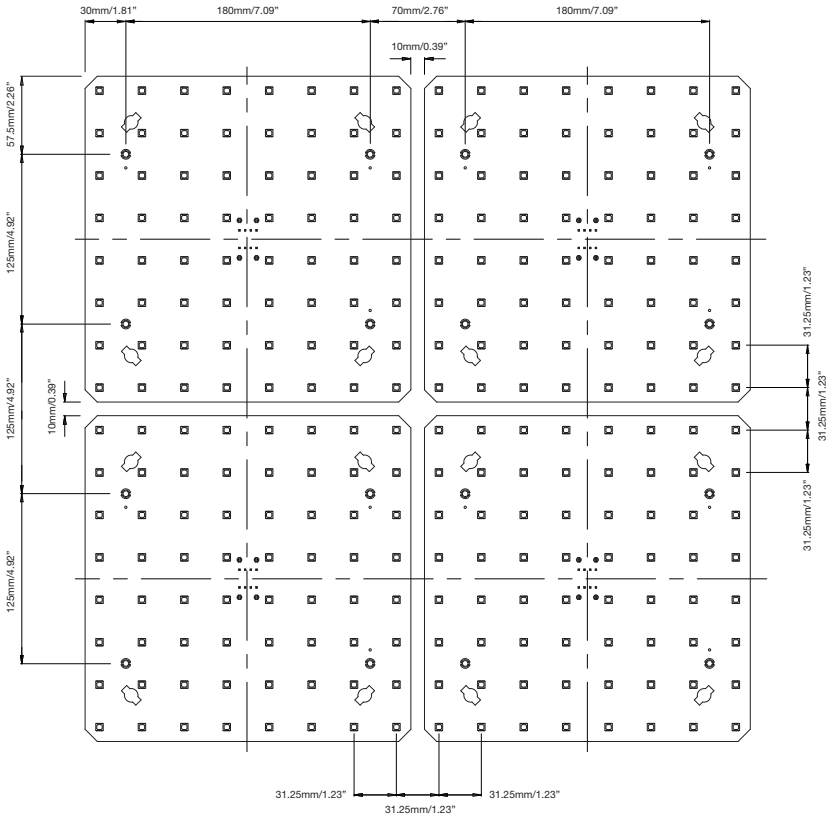
2. To keep a consistent LED pitch when mounting multiple boards, use the dimensions shown in below diagram.

FIG.4: Mounting Multiple Boards



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3. SAFETY AND OPERATION

- CAUTION - Unplug the power supply from the mains power before connecting any cables as this can damage the products.
- CAUTION - Avoid looking directly into the LED light source at close range for your own safety.
- Persons installing this products should make sure:
    1. The installation complies with all applicable codes, state and local laws, ordinances, standards and safety regulations.
    2. The installation environment is carefully studied and suitable surge protection measure(s) is taken.
    3. He or she is qualified for the handling of electrical equipment.
- Do not attempt to install or use the product until installation instructions and safety labels are fully understood. This product is designed for indoor use only.
- Ensure product operates within the specified temperature range. (Refer to 6. TECHNICAL SPECIFICATION for more details.)
- Do not attempt to open the product. Not user serviceable.
- Do not use the product if any part of it, or the power cables are damaged.
- Only use product for specified voltage, do not exceed. (Refer to 6. TECHNICAL SPECIFICATION for more details.)
- If the product has been subjected to drastic temperature variances, for example, following transportation, do not connect the fixture until it has reached room temperature, as moisture condensation may cause electric shock and product damages.
- When installing the products and system power supplies, please ensure they will not be exposed to moisture and extreme heat. Besides, keep a clean operating environment for the fixtures and system power supplies.
- Please study this Installation Guide thoroughly and check the latest Technical Specification Sheets available from the Traxon website www.traxontechnologies.com before setup.
- Any non-compliance of the Installation Guide will void the Traxon warranty.

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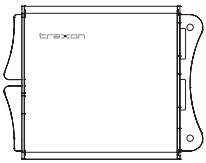
4. SYSTEM CONFIGURATION

4.1 TYPICAL CONNECTION COMPONENTS

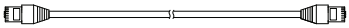
TX Connect System is a interconnection system that combines power and DMX data on a single connector cables so that only one connection is required between light fixutres. The Board uses TX Connect System for all interconnections. Below diagram shows some components for the TX Connect System

FIG.5: TX Connect System Components



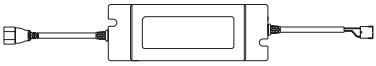
Video Micro Converter
Part No.: 160185

Butler S2
Part No.: EN.BU.0000001



TX Connect Data Cable
Part No.:

DI.IC.0020000	0.2m	DI.IC.0100000	1m
DI.IC.0300000	3m	DI.IC.0500000	5m
DI.IC.1000000	10m	DI.IC.2000000	20m

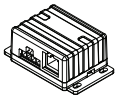


LED Engine Smart 100W Indoor
Part No.: PS.IA.0010000

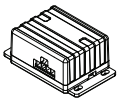
TX Connect Smart Power Injector Cable
Part No.: TI.PI.0000100

TX Connect Smart Interconnection Cable
Part No.:

TI.IC.0008000	0.08m
TI.IC.0030000	0.3m
TI.IC.0060000	0.6m



TX Connect Smart
Power/Data Injector Box
Part No.: TI.ZI.0000100



TX Connect Smart
Data Extractor Box
Part No.: TI.DO.0000100

TX Connect Smart Extension Cable
Part No.:

TI.EC.0050000	0.5m	TI.EC.0100000	1m
TI.EC.0300000	3m	TI.EC.0500000	5m
TI.EC.1000000	10m		

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FIG.6: System Diagram - Butler S2

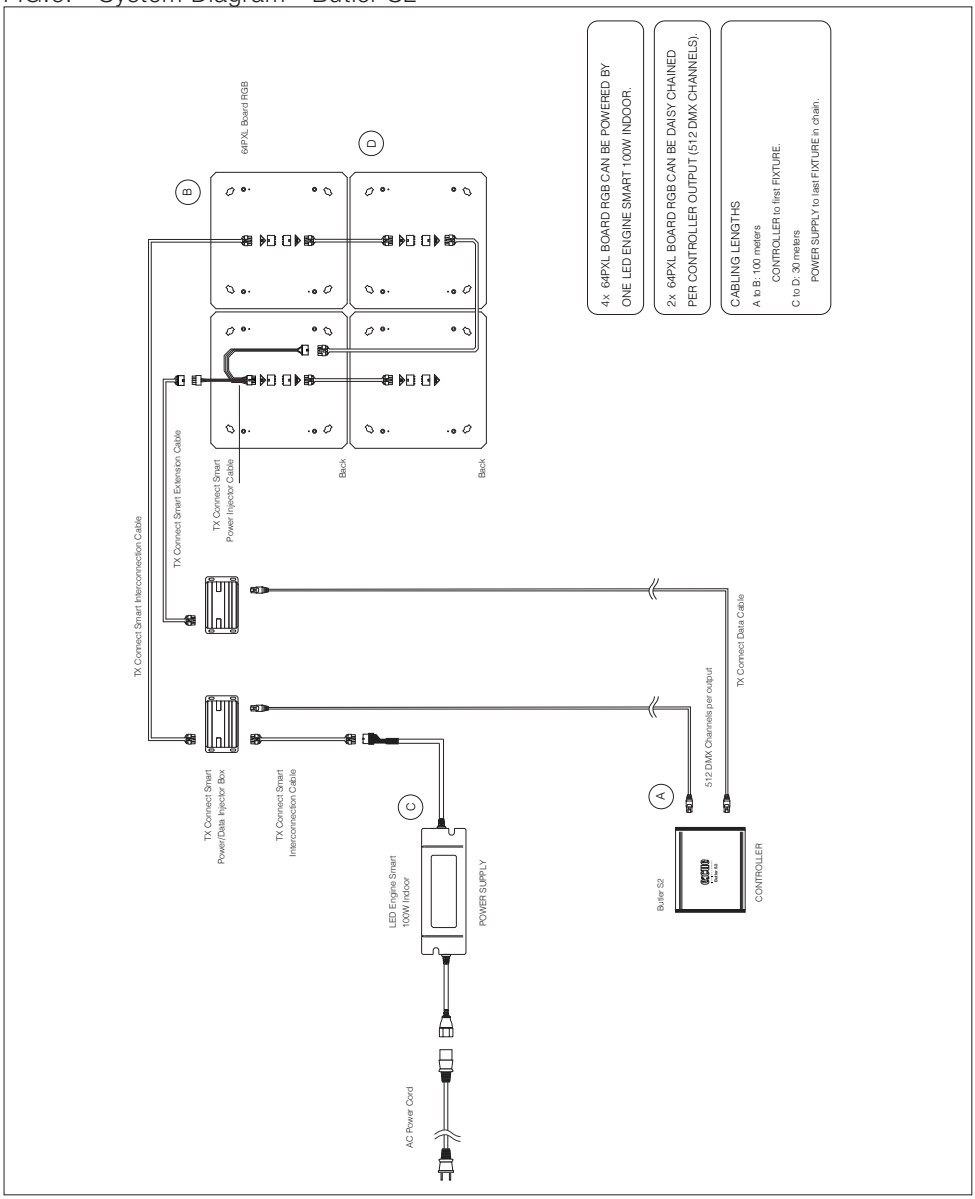
4x 64PXL BOARD RGB CAN BE POWERED BY ONE LED ENGINE SMART 100W INDOOR.
2x 64PXL BOARD RGB CAN BE DAISY CHAINED PER CONTROLLER OUTPUT (512 DMX CHANNELS).
CABLING LENGTHS
A to B : 100 meters
CONTROLLER to first FIXTURE.
C to D : 30 meters
POWER SUPPLY to last FIXTURE in chain.
64PX Board RGB
B
D
Back
Back
TX Connect Smart Power Injector Cable
TX Connect Smart Extension Cable
TX Connect Smart Interconnection Cable
TX Connect Smart Power/Data Injector Box
TX Connect Smart Interconnection Cable
C
LED Engine Smart 100W Indoor
POWER SUPPLY
AC Power Cord
A
512 DMX Channels per output
TX Connect Data Cable
Butler S2
CONTROLLER

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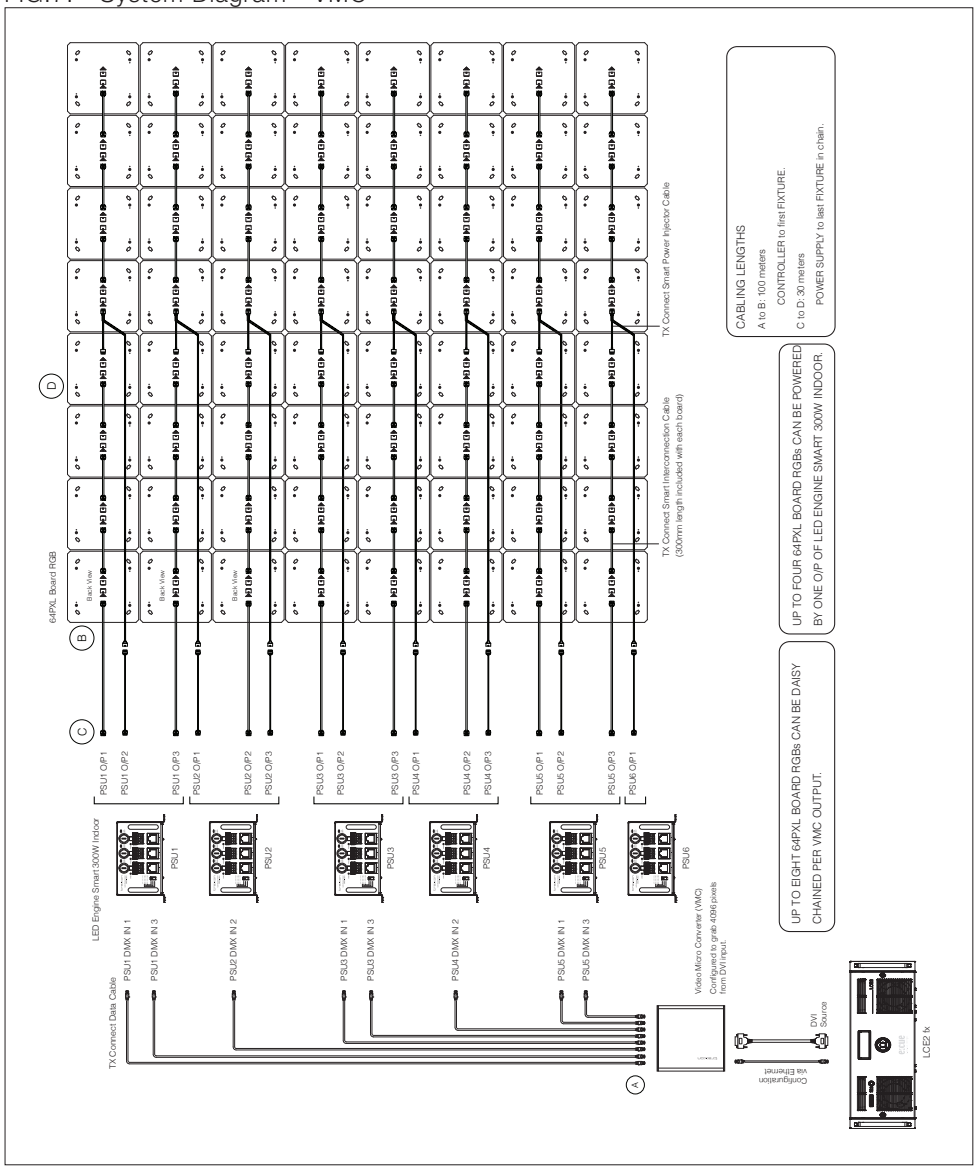
FIG.7: System Diagram - VMC



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4.2 Connection between Fixtures

Use the TX Connect Smart Interconnection Cable to connect between boards. Use the pre-installed cables to connect between modules. For longer distances, use existing cable together with a TX Connect Smart Extension Cable.

FIG.8: Connecting Fixtures

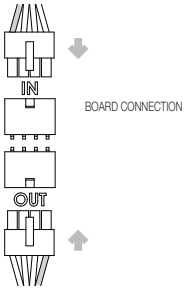
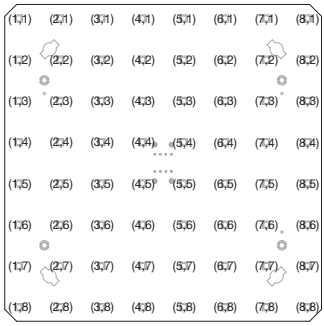


FIG.9: LED Positions on Board



4.3 LED Control

The LEDs on the 64PXL board RGB are controlled by DMX. The LED location on the Board and its DMX channel is shown in above diagram and in the following table.

LED Dice	DMX Channel Number
R	192(n-1) + 24(x-1) + 3(y-1) + 1
G	192(n-1) + 24(x-1) + 3(y-1) + 2
B	192(n-1) + 24(x-1) + 3(y-1) + 3
Where: n is the Board position in the chain. x is the LED horizontal position on the Board. y is the LED vertical position on the Board.	

Power On: 64PXL Board RGB has an approximately one second initialization period after power-on. During this period, the LEDs on the board may light up randomly. This is normal behavior of the board.

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5. CARE AND MAINTENANCE

Traxon™ products are of superior design and quality and should be treated with care. The recommendations below will help fulfill any warranty obligations and gain good use and longevity from the products.

- Do not attempt or use the product(s) until you read and understand the installation instructions. Failure to adhere to these instructions could result in serious injury or property damage.
- Do not use product(s) if cables are damaged.
- Do not connect cables and connectors when wet or in wet area. Moisture on bare connectors can cause electric shock and damage to product(s).
- Do not use product(s) in extreme heat environment. Ensure there is sufficient airflow and use cool air circulation if required.
- Do not drop, knock, or shake product(s). Rough handling can damage the electronics and void the warranty.
- Do not use harsh chemicals, cleaning solvents, or strong detergents to clean products. Wipe with a damp cloth on housings and a dry cloth on electronics to remove dirt or dust.
- Do not use product(s) outdoors.
- Do not attempt to service or repair the product(s) unless done by an authorized service personnel. Contact your local Traxon office or distributor for details.
- If the product is not working as specified, please contact your nearest authorized service center or Traxon Technologies office for assistance.

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6. TECHNICAL SPECIFICATION

64PXL Board RGB	
Color Range	16.7 Million additive RGB colors with variable intensity
Light Source	64 Ultra Bright SMD LED
Beam Angle	120°
Power Input*	24V DC
Power Consumption	24W max.
Operating Temperature	0°C to +50°C / +32°F to +122°F
Storage Temperature	–20°C to 70°C / –4°F to +158°F

*For use with TRAXON LED Engine Smart 100W Indoor (PS.IA.0010000) power unit.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

As with all electronic devices, LED output degrades over time - a term called lumen depreciation. This also explains why it is nearly impossible to expect photometric performances of two LED products with different service life spans to be the same. The rate of LED degradation is a complex function of many factors such as operating efficiency, duration of continuous operation, and operating conditions (e.g. ambient temperature).

Because LEDs are semiconductor devices, their performances are subject to inherent variability commonly found in semiconductor industry. To improve consistency in performance across the same product, LED manufacturers “sort” LEDs into bins according to different preset parameters, such as forward driving voltage, illumination, etc. Whereas binning is a sorting function, it is not a correction process. Inherent variability in the manufacturing process always results in different binning distributions according to different production lots. Traxon uses automatically binned LEDs on its products, thereby minimizing output variations within the model range.

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7. TROUBLESHOOTING

CAUTION: Ensure power supply is OFF when disconnecting / connecting cables.

Problem	Cause	Possible Solutions
Product does NOT light up after installation	Incorrect power connection	• Check Mains Power • Check power supply leads and wire connections • Ensure output wires are connected with proper polarity
Shadowing	Light source covered	• Check for cables, wires or unwanted debris covering LED light source
Modules are dim	Excess products connected	• Ensure the power supplies are not overloaded due to an excess of products connected
Flickering	Incorrect power input/ Excess products connected	• Ensure the input voltage is correct • Ensure the power supplies are not overloaded due to an excess of products connected

If problems persist or the product is not working as specified, please contact your nearest authorized service center or Traxon Technologies office for assistance.

8. WARRANTY STATEMENT

Traxon Technologies warrants its Products against material or workmanship defects for a period of five (5) years from date of purchase, provided that the purchased items are used under the conditions stated in this user manual.

Please refer www.traxontechnologies.com for all warranty terms and conditions.

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9. ADD-ON FIXTURES

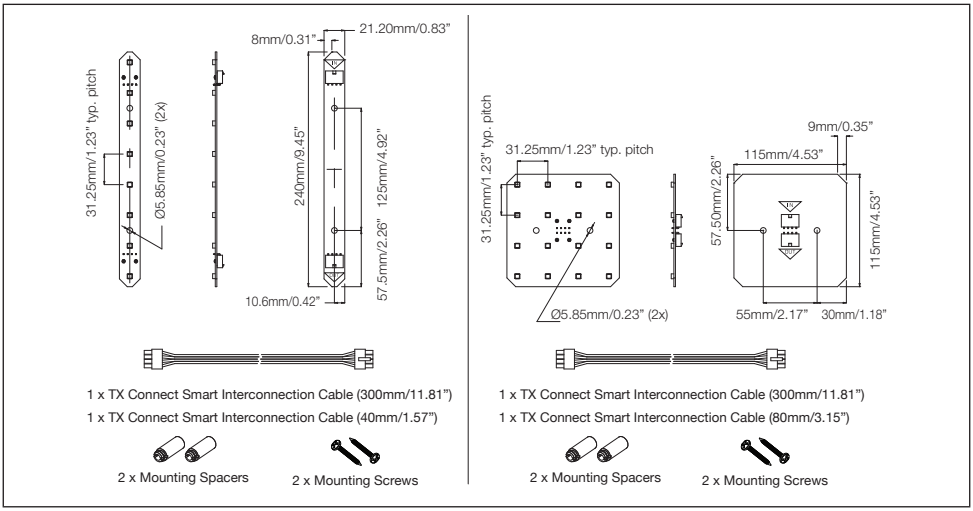
8PXL Add-On Strip RGB 31.25 (MB.ST.7213000)

16PXL Add-On Board RGB 31.25 (MB.BO.7110100)

8PXL Add-On Strip and 16PXL Add-On Board are Add-On extensions for the 64PXL Board RGB. The Add-On Strip and Board use TX Connect for all interconnections.

9.1 Dimensions

FIG.10: Add-On Strip (31.25) / Add-On Board (31.25)



9.2 Technical Specifications

Add-On Strip (31.25) / Add-On Board (31.25)	
Color Range	16.7 Million additive RGB colors with variable intensity
Light Source	8 / 16 Ultra Bright SMD LED
Beam Angle	120°
Power Input*	24V DC
Power Consumption	5W max. (MB.ST.7213000), 10W max. (MB.BO.7110100)
Operating Temperature	0°C to +50°C / +32°F to +122°F

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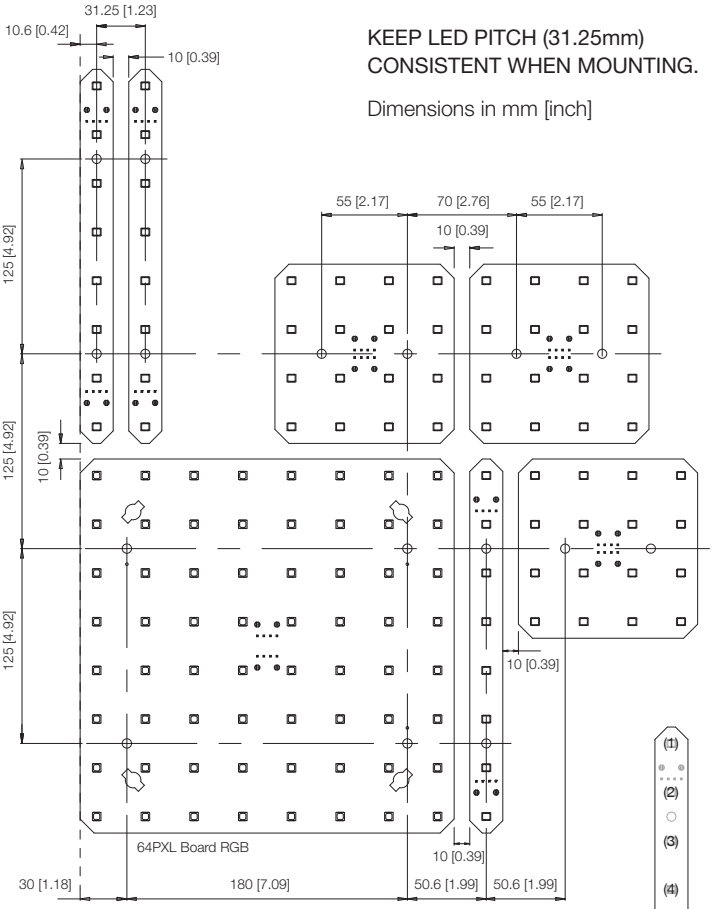
FIG.11: Mounting 64PXL Board RGB with Add-On Strips and Add-On Boards



DMX CHANNEL ALLOCATION

LED Dice	DMX Channel Number
RED	Start Address + 3L - 3
GREEN	Start Address + 3L - 2
BLUE	Start Address + 3L - 1
Where: L is the LED position on the board.	

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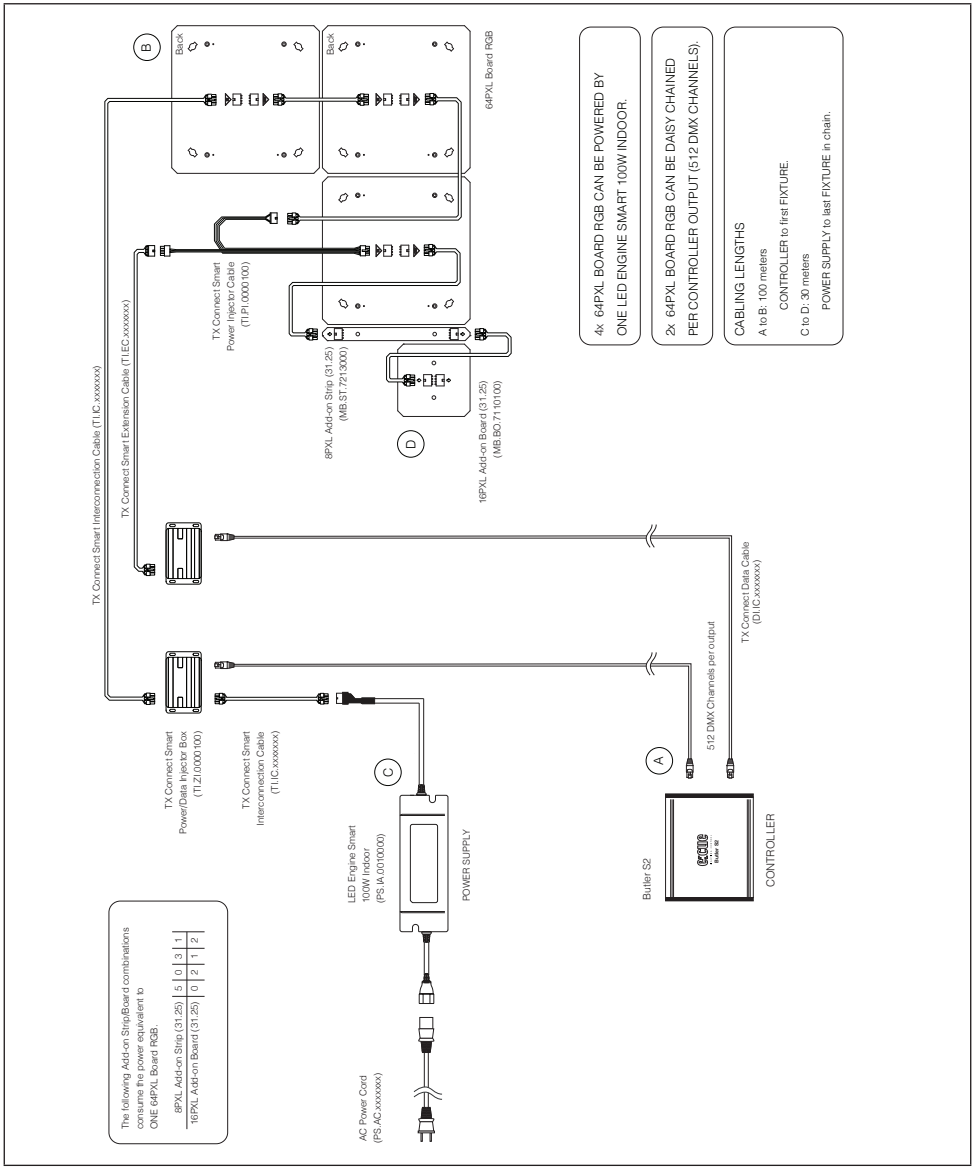
FIG.12: 64PXL Board RGB with Add-On Strip and Add-On Board Connection Example


64PXL Board RGB
Back
Back
B
TX Connect Smart Power Injector Cable (TI.PI.0000100)
8PXL Add-on Strip (31.25) (MB.ST.7213000)
16PXL Add-on Board (31.25) (MB.BO.7110100)
D
TX Connect Smart Interconnection Cable (TI.IC.xxxxxxx)
TX Connect Smart Extension Cable (TI.EC.xxxxxxx)
4x 64PXL BOARD RGB CAN BE POWERED BY ONE LED ENGINE SMART 100W INDOOR.
2x 64PXL BOARD RGB CAN BE DAISY CHAINED PER CONTROLLER OUTPUT (512 DMX CHANNELS).
CABLING LENGTHS
A to B: 100 meters
CONTROLLER to first FIXTURE.
C to D: 30 meters
POWER SUPPLY to last FIXTURE in chain.
TX Connect Smart Power/Data Injector Box (TI.ZI.0000100)
TX Connect Smart Interconnection Cable (TI.IC.xxxxxxx)
C
LED Engine Smart 100W Indoor (PS.IA.0010000)
POWER SUPPLY
AC Power Cord (PS.AC.xxxxxxx)
A
512 DMX Channels per output
TX Connect Data Cable (DI.IC.xxxxxxx)
Butler S2
CONTROLLER
The following Add-on Strip/Board combinations consume the power equivalent to ONE 64PXL Board RGB.
8PXL Add-on Strip (31.25) | 5 | 0 | 3 | 1
16PXL Add-on Board (31.25) | 0 | 2 | 1 | 2

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AN OSRAM BUSINESS

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